

Patent claims

- 5 1. Device (10) for heating an aircraft cabin comprising a first hot air supply line (12) leading to an air conditioning unit (14), a flow control valve (16) disposed in the first hot air supply line (12) upstream from the air conditioning unit (14), and a second hot air supply line (18) between the flow control valve (16) and the air conditioning unit (14) branching off from the first hot air supply line (12) and
10 bypassing the air conditioning unit (14)
characterised in that
- a third hot air supply line (20) branches off upstream from the flow control valve (16) from the first hot air supply line (12), which third hot air supply line connects the first hot air supply line (12) to the second hot air supply line (18),
 - 15 - in the second hot air supply line (18) upstream from the junction with the third hot air supply line (20) a first close off mechanism is disposed, which first close off mechanism prevents in its closed position a flow from the second hot air supply line (18) into the first hot air supply line (12), and that
 - in the third hot air supply line (20) upstream from the junction with the second hot
20 air supply line (18) is disposed a second close off mechanism.
2. Device according to Claim 1,
characterised in that when the air conditioning unit (14) is functioning the first close off mechanism assumes its open position and the second close off mechanism
25 assumes its closed position.
3. Device according to Claims 1 or 2,
characterised in that in the event of a failure of the air conditioning unit (14) the flow control valve (16) and the first close off mechanism assume their closed positions
30 and the second close off mechanism assumes its open position.
4. Device according to one of the preceding claims,
characterised in that a plurality of first hot air supply lines (12) leading to an air conditioning unit (14) is provided wherein in each first hot air supply line (12) is
35 disposed upstream from the air conditioning unit (14) a flow control valve (16) and a second hot air supply line (18) branching off from the respective first hot air supply line (12) between the flow control valve (16) and the air conditioning unit (14)

bypassing the associated air conditioning unit (14), wherein from each first hot air supply line (12) upstream from the flow control valve (16) a third hot air supply line (20) branches off which third hot air supply line (20) connects the first hot air supply line (12) to the associated second hot air supply line (18) and wherein in each
5 second hot air supply line (18) is disposed a first close off mechanism upstream from the junction with the third hot air supply line (20) which first close off mechanism in its closed position prevents a flow from the second hot air supply line (18) into the associated first hot air supply line (12), and in each third hot air supply line (20) is
10 disposed a second close off mechanism upstream from the junction with the associated second hot air supply line (18).

5. Device according to one of the preceding claims,
characterised in that each first close off mechanism is a non-return valve (24).

15 6. Device according to one of the preceding claims,
characterised in that each second close off mechanism is a stop valve (22).

7. Device according to Claim 6,
characterised in that each stop valve (22) is automatically actuated.
20

8. Device according to Claim 7,
characterised in that each stop valve (22) is connected to a control means, in particular to the control means of the associated air conditioning unit (14).

25 9. Process for heating an aircraft cabin, wherein a portion of a controlled flow of hot air from a hot air source is guided through an air conditioning unit and a portion is guided past the air conditioning unit into the aircraft cabin,
characterised in that in the event of a failure of the air conditioning unit the hot air is mixed with cold ambient air and is guided to the aircraft cabin by bypassing the flow
30 control valve and the air conditioning unit.

10. Process according to Claim 9,
characterised in that the air fed to the aircraft cabin is set to a desired temperature by a control means that is also employed for normal operation.